UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

January 7, 2002

Reply To
Attn Of:113

Ms. Kathleen Hain, Manager
Environmental Restoration Program
U.S. Department of Energy
Idaho Operations Office
850 Energy Drive
Idaho Falls, Idaho 83401-1563

Re: EPA Review of the *Remedial Design/Remedial Action Work Plan for Waste Area Group 4, CFA-08 Sewage Plant Drainfield, OU 4-13 (Draft)*

Dear Ms. Hain,

EPA received the above-referenced document on November 21, 2001. EPA has reviewed the draft work plan and has enclosed comments.

I look forward to addressing these issues during the comment resolution period. Please contact me at (206) 553-0040 if there are any questions.

Sincerely,

Kathy Ivy
Remedial Project Manager

Enclosure

cc: Carol Hathaway, DOE-ID
Clyde Cody, IDEQ

EPA JANUARY 2002 COMMENTS ON THE NOVEMBER 2001
REMEDIAL DESIGN/REMEDIAL ACTION WORK PLAN FOR WASTE AREA GROUP 4, CFA-08 SEWAGE PLANT DRAINFIELD, OU4-13 (DRAFT)

General Comments

1. There are a number of sections in the work plan which discuss how the engineered cover will control contaminant transport to the groundwater. Although the cover design includes an infiltration control component that will aid in mitigating the likelihood of increasing nitrate concentrations in the aquifer attributed to the sewage drainfield, it should be clarified that groundwater exposure was determined not to be a risk at CFA-08. These sections should specify that the pathway associated with risk at CFA-08 is direct exposure to radionuclides.

2. The design section of the work plan should include a description of materials used in the engineered cover as well as an explanation of the purpose for each material (e.g. 4 ft of silt loam from the Lincoln Boulevard borrow source will be placed to provide for evapotranspiration...). Some of this information is included in Appendix D, Infiltration Calculations, but should also be summarized in the main body of the work plan. Other aspects of the design are not explained anywhere in the document, for instance: What is the difference between Lincoln Boulevard pit and Spreading Area A soil characteristics and planned use? Why were the plant species listed in Appendix B, Construction Specifications, chosen for the vegetative cover?

3. The design section of the work plan should include a discussion of nitrates detected in the groundwater at WAG 4 and plans to continue monitoring nitrate levels as part of sampling required in the OU 4-12 Post-Record of Decision Monitoring Work Plan. This section should list the ultimate goal for nitrate levels (i.e. the 10 mg/L MCL), frequency of monitoring, method of reporting sampling results and data trends to the agencies, and a proposed response if trends remain stable or increase or if the MCL is not met within the predicted 15 years. The Engineering Design File developed to assess nitrate (DOE-ID, 2000, *Summary of Nitrate Evaluation, Waste Area Group 4*, Department of Energy Idaho Operations Office, INEEL/EXT-2000-01115, Rev. A, September 2000) should be included as an appendix to this work plan.

4. It is not clear why activities at the Spreading Area A borrow source are included in this work plan rather than being handled as part of INEEL operations as, it seems, activities at the Lincoln Boulevard pit are being handled. Please explain.

Specific Comments

1. Page 1-1, Section 1, last paragraph: This section should explain that the CFA-08 work plan also addresses institutional controls at CFA-08, CFA-07, and Landfills I, II, and III as well as associated environmental monitoring.

2. **Page 2-2, Section 2.2.2, first paragraph**: A brief explanation should be added concerning the 189-year duration required for cover effectiveness such as: "A timeframe of 189 years is required for the maximum cesium-137 concentration at the CFA-08 drainfield (180 pCi/g) to naturally decay to 2.3 pCi/g, the 1E-04 future residential risk-based concentration."

3. **Page 2-3, Table 2-1, "Design Life" and "Institutional Life"**: A date should be included for the end of the design life using a reference start date. The 100-year land use scenario was established in 1995, so the design life of the cover would be appropriate through the year 2184. The institutional life would apply through the year 2095.

4. **Page 2-5, Section 2.6, second bullet:** Control of direct exposure to contaminants at CFA-08 should also be listed as a design assumption considering that the direct exposure pathway was determined to be associated with risk to human health.

5. **Page 3-1, Section 3.2, third paragraph**: It should be clarified that exposure through the groundwater pathway was determined not to be associated with a risk to human health.

6. **Page 4-1, Section 4.1, second paragraph, first and second bullets:** The year 2095 should be used as the estimated timeframe for CFA operation and the year 2184 as the duration of land use controls.

7. **Page 4-1, Section 4.1, third paragraph:** The Remedial Action Objective included in the OU 4-13 Record of Decision which addresses nitrate should also be included here: "Monitor the groundwater at WAG 4 until the nitrate level falls below the MCL of 10 mg/L."

8. **Page 4-6, Table 4-1, DOE Order 5400.5, Compliance Strategy:** Excavation of contaminated soil is not planned for CFA-08, so reference to this activity should be removed.

9. **Page 5-2, Section 5.3.3, third paragraph, last sentence:** It states here that the telephone poles will be dispositioned at an approved TSD facility. In Appendix G, page G-4, assumption M, it states that the telephone poles are not to be considered hazardous material and will be delivered to the CFA excess yard. Please resolve this inconsistency.

10. **Page 5-4, Section 5.3.9, first paragraph:** It states here that the native loam soil will come from the Lincoln Boulevard pit, Spreading Area A, or an alternative source. Appendix B, Specification 02200, Earthwork, only mentions use of borrow material from the Lincoln Boulevard pit and Spreading Area A. A specification for the loam soil should be included if use of an alternative borrow source is a possibility.

11. **Page 5-5, Section 5.5:** This section should include a brief explanation for the reduced cost of site characterization and the expected lower cost for remedial action compared to Record of Decision estimates described in Table 5-1.

12. **Page 5-12, Section 5.16, first paragraph, last sentence:** It should be added that revisions to the Operations and Maintenance Plan require concurrence from the Agencies.

13. Page 5-12, Section 5.16, second paragraph: It should be added that the institutional control plan also covers OU 4-13 CFA-07 and the OU 4-12 Landfills.

14. Page 6-1, Section 6: The more detailed discussion about institutional controls and groundwater monitoring in the second two paragraphs of this section should be included in the design section of the work plan rather than in this Five-Year Review section. The five-year review encompasses all aspects the remedy at each site where contamination remains above levels that allow for unlimited use and unrestricted exposure, including an assessment of the protectiveness of the engineered covers, the maintenance and monitoring program, and institutional control measures.

When addressing groundwater monitoring in the design section of the work plan, it should be clarified that the 25-year timeframe derives from the 30 years of monitoring which was only assumed for cost estimating purposes. The explanation should be similar to that included in the Record of Decision: "The OU 4-12 Post-Rod Monitoring Work Plan included a cost estimate for 30 years of groundwater monitoring at WAG 4; the wells have been monitored for four years to date. Monitoring will continue until such time as the five year reviews show, and the Agencies agree, that it is no longer necessary."

The Five-Year Review section should discuss plans to consolidate the OU 4-12 and OU 4-13 review in 2007 as discussed in the Operation and Maintenance Plan. It should be explained that a review will take place in 2007 because the initial Five-Year Review for the OU 4-12 Landfills will be conducted Spring 2002 and construction of the OU 4-13 CFA-08 engineered cover will begin Spring 2002.

15. Appendix F, Waste Management Plan, Page F-5, Section 4.1: This section describes a threshold value of 100 counts per minute above background at which point material will be managed as low-level radioactive waste. Is this a value established as part of INEEL waste operations? How does this value correspond to established risk levels?

16. Appendix F, Waste Management Plan, Page F-5, Section 4.4: It should be added that, if disposal is required at an off-site TSDF, that a CERCLA off-site suitability determination would be required.

17. Attachment 2, Operation and Maintenance Plan: Many of the specific requirements for the landfills contained in the OU 4-12 Operation and Maintenance Plan are listed in the OU 4-13 O&M Plan and attached inspection forms. Is the OU 4-13 O&M Plan intended to combine all operation and maintenance activities at WAG 4, superceding the OU 4-12 O&M Plan?

18. Attachment 2, Operation and Maintenance Plan, Page 1, third paragraph, bullet 5: It should state here that the Institutional Control Plan also addresses institutional controls at the three Landfills remediated under the OU 4-12 ROD.

19. Attachment 2, Operation and Maintenance Plan, Page 5, Section 2.1.1: The duration of Landfill I operation should be included. The OU 4-12 Record of Decision describes operation of the rubble landfill from the mid-1950s to 1970 and from 1982 to 1984. Also, the contaminants of concern for risk pathways listed in the OU 4-12 Record of Decision for Landfill I should be added.

20. Attachment 2, Operation and Maintenance Plan, Page 6, Section 2.1.2: The contaminants of concern for risk pathways listed in the OU 4-12 Record of Decision for Landfill II should be added.

21. Attachment 2, Operation and Maintenance Plan, Page 7, Section 2.1.3: The contaminants of concern for risk pathways listed in the OU 4-12 Record of Decision for Landfill III should be added.

22. Attachment 2, Operation and Maintenance Plan, Page 8, Section 2.1.4: The contaminant of concern listed in the OU 4-13 Record of Decision is lead. Are radionuclides present at CFA-07 as well?

23. Attachment 2, Operation and Maintenance Plan, Page 10, Section 3.2: The citation for the OU 4-12 Post-Rod Monitoring Work Plan should be corrected to reflect Revision 4 of the document which occurred June 1997.

24. Attachment 2, Operation and Maintenance Plan, Page 10, Section 3.3: This introduction states that maintenance of institutional controls is required at the CFA-01, CFA-02, and CFA-03 landfills; routine soil cover and soil moisture monitoring equipment inspections should also be listed as a requirement for these sites. This section also states that routine inspections of the engineered cover are required after construction at CFA-08; maintenance of institutional controls should also be listed for this site.

25. Attachment 2, Operation and Maintenance Plan, Page 10, Section 3.3.1: The citation for the OU 4-12 Operation and Maintenance Plan should be corrected to reflect Revision 3 of the document which occurred September 1997. This section should also list the O&M requirements for inspection of the Neutron Access Probes and Time Domain Reflectometers equipment condition.

26. Attachment 2, Operation and Maintenance Plan, Page 12, Table 4-1: Topographical surveys and inspection of the soil monitoring equipment at CFA Landfills I, II, and III should be included under the "O&M Requirement" heading in this table. The timing for these requirements should be added under the "Action" heading.

27. Attachment 2, Operation and Maintenance Plan, Page 14, Section 4.2.3: The frequency of topographical surveys (both the planned surveys and the three surveys that would take place in the event of subsidence) at the OU 4-12 Landfills and the Landfill II rock armoring should be clarified.

28. Attachment 2, Operation and Maintenance Plan, Page 14, Section 4.2.6: This section should provide more detail about the radiological survey including information about the detection technique, scope of the survey, level of readings that would indicate failure, and proposed response to a failure.

29. Attachment 2, Appendix A, Institutional Control Plan, Page A-7, Section A-3.1.1: The warning signs should also list a contact number.

30. Attachment 2, Appendix A, Institutional Control Plan, Page A-8, Section A-3.2: The specific objectives of the institutional controls should be listed for each site. For example, the objective of the institutional controls at CFA-08 is to ensure that human receptors do not come into direct contact with radiologically contaminated soil.

31. Attachment 2, Appendix B, Inspection Report Forms, Page B-4: The inspection points listed for the Neutron Access Probe Tubes need to be corrected to reflect inspection requirements for the probes.

Editorial Comments

1. Page 2-4, Section 2.5: The citations are listed here as IDAPA 58 while the ROD lists these as IDAPA 16.

2. Page 4-1, Section 4.1, last bullet: The word "human" should be removed from this sentence.

3. Attachment 2, Appendix B, Inspection Report Forms, Page B-5: The inspection point, "Document signs are in-place," is listed twice in this form.